THE AMERICAN ARCHITECT AND BUILDING NEWS.

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WE neglected to speak last week of the opening of the new Museum of Fine Arts in Boston. Of the intended building, begun three or four years ago, only about one-seventh has yet been completed, at a cost of about two hundred and twenty thousand dollars. This part, with the collections that have been moved into it, was formally opened to the public on the 3d of July. The building, designed by Messrs. Sturgis and Brigham, is of brick, freely decorated with English terra-cotta, red and buff, in string-courses, copings, water-tables, shafts, capitals, and sculptured panels; and is noticeable for being, we think, the first important building at the East, in which this treatment has been carried out with any elaboration, although the Chicago terra-cotta has been used in the neighborhood of that city for a few years with considerable freedom, and with great success. The building is the realization of a project formed near twenty years ago, when the Jarves collection was first brought to this country. Then an effort was made to buy the collection, and a petition presented to the State Legislature for a grant of land on the Back Bay; but the attempt was unsuccessful, and the Jarves collection went to New Haven. It was not till seven years ago, when Mr. T. B. Lawrence bequeathed his collection of works of art to the Boston Athenæum, that the effort was renewed. The Athenæum had no sufficient accommodation to offer for the collection; and Mrs. Lawrence offered to give twenty-five thousand dollars to the building of a museum for it. The Social Science Association was ready to give for public use a collection of plaster casts; and Harvard College was willing to intrust the Gray collection of engravings, for which it had no proper room. An arrangement was made for combining these three collections, the trustees of the Public Library and the Massachusetts Institute of Technology agreeing to give their assistance; and a subscription was set on foot in behalf of the new building, which soon amounted to a quarter of a million of dollars. An act of incorporation was obtained, and trustees appointed, in 1870; a tract of land, presented to the city by the Boston Water Power Company, for the advancement of the fine arts, was granted for the Museum; and the plans for the present building were selected in competition.

THE part already built, at the corner of Dartmouth Street and St. James Avenue, contains on the ground-floor four large rooms assigned to sculpture, including casts, and to Egyptology; and the staircase-hall. In the story above is a picture-gallery thirty-two by fifty-five feet, lighted and ventilated by a lantern or clerestory and by skylights; a room of equal size for decorative objects, textile fabrics, pottery, bronzes, etc.; and two rooms for the Lawrence and Gray collections. Above the room for the decorative work is one of equal size, to be used as a gallery of photographs. In the basement are the janitor's rooms, rooms for packing and other executive uses, and committee-rooms. The building when completed will be built upon a rectangle of two hundred and ten by three hundred feet, and enclose two interior courts separated by a cross wing. It will include greatly enlarged galleries and rooms for collections, lecture-halls or theatres, a restaurant, rooms for drawing, painting, and modelling, and for all the uses to which a museum of art lends itself.

AT present, the Museum contains the collections already mentioned; the Way collection of Egyptian antiquities; some additional gifts of decorative articles from Mrs. Lawrence, with which should have been a very valuable collection of old armor, that was unfortunately burned in the great fire of 1872; a collection of Greek vases, presented by Mr. Thomas G. Appleton; a selection from the collection of the Boston Athenæum; various valuable decorative articles presented or lent by private persons; and for the present the Montpensier pictures, which, when the time for which they were lent expires, will be replaced by the Sumner collection. As yet the plan of a school of art, which is an essential part of the original scheme, has not been brought into a working shape; but it is intended to establish a school complete in all the branches of the fine arts, which shall supplement the Museum, as that at South Kensington is meant to supplement the museum there.

THE interest in the saving of the Old South Church in Boston increases, and with it the difficulties. A petition was presented to the city government not long ago, praying the city to appropriate a hundred and fifty thousand dollars toward the purchase of the church, on certain conditions; but the hearing of this petition was postponed till September. Meanwhile, the committee of the church, appealed to for further extension of the time for taking down the building, and apparently beginning to lose patience, gave, as their ultimatum, a proposition to sell the whole property to the subscribers' committee for its assessed valuation, four hundred and twenty thousand dollars, on condition that the purchaser of the building should release it at the price of sale, thirteen hundred and fifty dollars; and that, if the full cash price were not raised and paid over by the 15th of September, no further delay should be asked. This proposition the purchasing committee felt obliged to refuse, as must have been anticipated in making it, urging that it was useless to hope that at this unfavorable season so large a sum would be subscribed in so short a time, and asking that the limit might be extended. The church committee was inexorable, however, and the case seemed to be growing hopeless. As we go to press we hear that a committee of ladies has bought the building of its purchaser for thirty-five hundred dollars; and now it is proposed to take it down carefully, and rebuild it somewhere on the Back Bay, probably close by the New Old South. This is perhaps the best solution of the difficulty, though the church will be sadly missed from its present situation. It will at least be a much cheaper undertaking; and the late purchaser, having cleared about one hundred and fifty per cent on his purchase, can afford to contribute liberally toward it. The society finds itself again with its elephant on its hands. There have been no sales of such highly valued land in Boston for a good while; and it will be curious to see whether it brings any thing like its valuation.

THE new elephant house of the Zoölogical Garden at Berlin, of which illustrations are given in the last received numbers of the *Zeitschrift für Bauwesen*, is peculiar enough to deserve notice. In plan it is a kind of nave, with aisles

which cover only about half its length, leaving at each end a square projecting bay of the nave. It is about ninety by a hundred and eighty feet in extreme dimensions, and is built in a sort of Indo-Moresque style, with a plain, we should say stuccoed, basement, in which the doors are merely pointed horseshoe arches, raised on stilts a foot or two high from the thresholds; the archivolts laid with parti-colored voussoirs in brick. The effect of this basement and doors is quite novel and vigorous. Above the basement the walls are in parti-colored brick-work laid in an Indian pattern. The section of the roofs is a pointed arch; and the projecting bays at each end of the nave are carried up into pyramidal towers eighty or a hundred feet high, with carved faces like those of the towers or *vimanas* of the northern Hindoo temples, and crowned by the characteristic umbrella-dome. Each tower is supported by four angle turrets in similar shape, — an arrangement which is no improvement on the original models. In each face of the main pyramids is a large blind pointed arch, its tympanum filled with diaper-work in brick. The faces of the pyramids, broken by vertical reveals, are decorated with a colored mosaic in brick-work representing elephants, dragons, and conventional ornament; the whole giving, from its being laid out in rectangular bricks, something the effect of a pattern in worsted-work or a Persian rug. The detail of columns, brackets, etc., is Indian in character; the nave and aisles being separated by massive baluster-like piers or shafts with bracket capitals formed of elephants' heads.

IN the arrangement of the building, the nave is reserved for spectators, the entrance being in the middle of one of the aisles. The rooms in the two towers at the ends of the nave are assigned to the two elephants, the Asiatic and the African, and are cut off from the nave, as are all the compartments, by strong iron railings. In the two aisles are compartments, on the one side for hippopotami, with a range of water-tanks, on the other for rhinoceroses. By an ingeniously effective treatment the light is directly admitted only into the rooms and compartments where the animals are; and the space reserved for the public, enclosed on all sides by these, and covered by a flat ceiling, takes its light from them. The spectators therefore stand in the shade, and see about them the monstrous pachyderms in illuminated enclosures. The size of the beasts makes it practicable to confine them by railings, of which the bars are far enough apart to allow the keepers to pass between, so that no doors of communication are needed. It appears that there are as yet no formulæ for computing the resistance of materials to elephants; and the bars of the railings, though of wrought iron, and more than three inches in diameter, were so bent in all directions by these animals that it was found necessary to stud them with spikes to protect them. The outer doors of the elephants' rooms are sliding doors weighing some thirty-five hundred pounds, and moved by a windlass and ratchet in an adjoining room: yet a crack of less than half an inch left between the door and its jamb gave one of the elephants a chance to squeeze in the lip at the end of his trunk, and, flinging back the door, to take a night walk in the garden.

IT is fair to Mr. Holly, whose papers in *Harper's Magazine* we criticised lately, to publish the following letters: —

TO THE EDITOR OF THE AMERICAN ARCHITECT.

My Dear Sir, — Permit me to enclose you copy of my letter to the *Nation*, as answer to your review of my articles in *Harper's Magazine*. Very respectfully yours,

H. HUDSON HOLLY.

NEW YORK.

TO THE EDITOR OF THE NATION.

Dear Sir, — A correspondent in your issue of June 26 complains of my "adapting" too freely from English authors and students, in my articles on "Modern Dwellings" in *Harper's Magazine*. It is true that I made extensive use of Eastlake's works and those of other authors; but it was my intention, wherever I did so, to give full credit. If I failed in any case to do so, it was through inadvertence. Some of my designs were copied from Messrs. Cox and Son's advertising catalogue. I mentioned their names in this connection, but did not give them as ample credit as seemed to me to be proper. Discovering this after my second article was printed, I wrote to their agent, promising to make whatever reparation I could. I found it impossible to do this in the subsequent articles, as they were in a part of the magazine that was already stereotyped. I then promised to give them full credit in my forthcoming book. The Messrs. Harper also gave them credit in their *Weekly*. The omission of credit in the first instance was not designed, and no one regrets it more than I do. Very respectfully yours,

H. HUDSON HOLLY.

SHEET-METAL ARCHITECTURE.

A COMMUNICATION on the use of sheet-metal in architecture, which we give in another column, calls up a subject in which architects are strongly interested nowadays, especially in the United States. The strictures of which our correspondent complains have been directed not at the use but at what we consider the misuse of the material, — at the unreasonable efforts which some manufacturers of it make, to thrust it into places and use it in forms for which we think it unfit, and to oust other materials which in their places we consider to be more appropriate. We refer especially to the use of sheet-metal — galvanized sheet-iron — in the walls, string-courses, cornices, brackets, and a hundred other details which in substantial work are usually executed in stone; and to the use in these sheet-iron details of forms which have been designed for solid stone, and are traditionally associated with it; and to the imitation of sculptured ornament. It is not necessary to spend much time over the practical disadvantages of this procedure. We simply refer to established facts when we say that hollow forms of thin metal used on the scale and in the positions that it is common to give to such details are practically not serviceable; that they are not durable, do not keep their shape long, and are to a trained eye at once and always distinguishable by their inferior look: in fine, that they are universally acknowledged to be so inferior to the things they imitate that hardly any one would think of substituting them if they were not very much cheaper. All ethical questions apart, we consider that this is sufficient condemnation of such use of material, especially since there is no need of using such features at all.

The question of the actual propriety of direct imitations in architecture, our correspondent does not face at all; and we shall not discuss it. If a man has not a natural disgust for shams, it is difficult to argue him into it. But there is sufficient and better use to be made of the metal. Besides its constructive uses, which are many, there are grills, gates, and railings, there are roof coverings and roof ornaments, which cannot well be made of stone, and for which in many cases metal is the most desirable material; and there are ways of using it which do honor to its distinctive qualities without forcing it handicapped into an unequal competition with other materials on their own ground.

The leading arguments of our correspondent may be briefly noticed, since they are probably those that are commonly used in support of the present use of sheet-iron. First, the argument, which he supports by quotations from a writer to us unknown, that since the Greeks stuccoed their architecture, and the moderns have imitated it in stucco, therefore it is equally right and desirable for us to imitate it in sheet-iron. To this we may say that, setting aside the question of the respectability of stuccoed architecture, stucco, if used at all, suits the same forms as stone, since it has the same texture and the same mechanical properties, which metals have not. Moreover, the stucco is not hollow, but as solid as the stone, though everywhere and always accepted as inferior; and the

difference between this and stone ashlaring and tiling on the one hand, and the imitative use of sheet-iron on the other, is exactly the difference between clothing and a mask. As for imitative fresco and graining, we trust that our correspondent, like other considerate architects, rejects them uncompromisingly. Wall-papers and burl veneers, when properly used, fall into an altogether different category. We must stop to correct a blunder into which our correspondent's understanding of his (to us) unknown authority seems to have led him. There is no reason to believe that the Greeks used any stuccoed ornament on their great works. They simply coated their stone with a thin film of stucco to give a fair ground for their painting: it was a "priming coat," as it were.

But arguments of this kind, which our correspondent extends to other materials where they are applicable, only prove that all the things included are in the same category, without showing at all that they are right. Another argument is, that, since beauty resides only in the surface of an object, it is entirely a matter of indifference what is the material that underlies a given form. This, to begin with, begs the whole question whether the forms attained are artistically the same. If our correspondent really believes that they are, let him compare a skilfully cut marble capital with those of the sheet-metal pavilion; or set a sheet-iron reproduction of Michael Angelo's Moses, which he quotes, or of the Belvidere Apollo, beside the original, or beside a good plaster-cast from it, — and ask any discriminating artist to take his choice. The foolish maxim, "The greater the deception, the greater the art," is one which may do for counterfeiters, but which no thoughtful artists, not even stage-players, whose art approaches nearest to mimicry, will hear without condemnation.

But let us look at the question from what we conceive should be the iron-workers' standpoint. We grant that the metals are noble materials, and that iron is so, though its inferior ductility and beauty set it for artistic form below copper and lead, for which its workers try so hard to substitute it. The noble effect of materials depends, however, on the use that is made of them; and in the case of metals, whose peculiarities are great fineness of texture, strength, and ductility (we are, of course, not speaking of cast metals), any treatment that disguises these qualities obscures their nobility. It is only in interior work that their beauty and fineness of texture and color can be shown; because, unfortunately, the weather destroys their surface, and iron even requires protection to assure its durability. The first condition of their honorable treatment is, that they shall not be used in too large masses, since this, in ordinary cases, belies their strength. Most of all, they should not be used in the same bulk, or appearance of bulk, as stone: else they forfeit at once the expression of strength and ductility which is their birthright.

We have granted that iron is a "noble" material. It is noble enough to deserve a form of its own; instead of which it is condemned everywhere to appear what it is not, and to ape the forms of other materials, as if it were unceasingly conscious of its inferiority, like an uncultivated person struggling into society, who uneasily copies the manners of persons at whom he affects to sneer for their airs of superiority. The people who really dishonor the material they advocate are those who continually try to smuggle it into use in the dress of something else, and act as if they were ashamed of it, even while they press it into notice. If they really have the artistic use of their material at heart, their proper course is to act as if they themselves respected it, to treat it as if it were really noble enough to inspire a characteristic treatment. What the public have a right to expect, then, of those who assume the responsibility of trying to revolutionize their system of building (and this is no light responsibility), and of giving form to the use of a "noble" and as yet almost untried material, is, that they should at least work faithfully to find the forms that best suit its peculiarly noble qualities; not misrepresenting or disguising it, but standing by it openly and loyally. The way is not far to seek, although it calls for patience and skill, for the expenditure of some time and some money, in the employment of the best educated ability in designing that can be had. Our correspondent rightly says that "some forms are more characteristic of the nature of some particular substances than others," and reminds us of the ductility of metals. The forms to which ductility lends itself, and for which it is above all other qualities, are sheets, bars, and rods. Then let sheets, bars, and rods bear an honorable prominence, when such forms are useful and appropriate; let the sheets be crimped, bent, serrated, or perforated, but not tortured into the semblance of solid blocks; let the rods and bars be honorably displayed, and, when ornament is wanted, be drawn and hammered and twisted into shapes that do credit to their ductility. Then, when these "art materials of the future" have been loyally helped to ordain their own true forms, let us see how far we are in our result from imitation of the forms which the men of antiquity developed in obedience to the different qualities of a very dissimilar material.

There is not the smallest foundation for our correspondent's assumption that the Greeks and the Romans (whom, however, we should never think of citing together as artists) would have repeated in sheet iron, if they had had it, the forms they used for stone. Their metal-work having all perished, except for some utensils and movable ornaments, they cannot be appealed to for example; but the testimony of archæology is altogether the other way. If, therefore, our metal-workers will do honor to their material without assuming the labor of working out fresh forms suitable for their new inheritance, or if, what would still be creditable, they prefer to confess that the task is above their present strength, they may well be content to "roll the world back" a few centuries less, and turn to the example of the designers who have fairly and honestly done the work before them, — to the mediæval artists who have left behind them innumerable beautiful examples of the right use of metal-work. If they would find a really noble and ample use for their material, they can labor to produce and multiply railings, grills, gates, doors, crestings, finials, of really artistic designs. Here is a field in which excellence will surely call out a great demand, — one which is peculiarly suited to the strength and ductility of their material, and which will utilize all the skilled labor they can command. But they are likely to remember that this requires study and deliberation; that they will have to employ, or else compete with, trained designers, and cannot fall back on cheap and unlimited duplication of old ideas. Seeing the easier and more immediately profitable way, it is not strange if many of them should prefer it.

The truth is, that it is not the architects and icy art-critics hurling their boomerang shafts (whatever those may be), that bring our new metal-work into discredit, but the metal-workers themselves. It is not enthusiasm for a noble material, but the desire for cheap finery, that does the mischief.

In conclusion we will record our conviction, that when manufacturers who charge themselves with the introduction of a "particular substance," and "to encourage it as a medium of art education" neglect to study and take advantage of the artistic qualities of their material, and assume to strain it beyond its reasonable uses, and crowd it, in the shape of a cheap imitation of the forms of another particular substance, into the use of an "art-craving and withal progressive people," they are very likely, in the long-run, to find that it does not pay.

HOLYOKE. — The new City Hall of Holyoke has cost, every thing included, about $372,000.

THE FINE ARTS AT THE CENTENNIAL.—IV.

THE AUSTRIAN, SCANDINAVIAN, AND DANISH PICTURES.

THERE is no distinct school of Austrian art. The painters are most strongly influenced by their neighbors the Germans, acquire much from the French, and something from the Italians. There are many artists of pronounced national character,—Matejko the Polish historical painter, Horovitz and Munkacsy the Hungarians, and Hans Makart who expresses better than any other the luxurious tastes that distinguish his *concitoyens* the Viennese. Makart has, however, no inspiration in his own country greater than the appreciation of a people who love to imitate the pomp of other nations, who, on the borders of the Orient, take a kindred delight in "barbaric pearl and gold." To such an audience, Makart unrolls his splendors of decoration, and is sure of applause and recognition. The French influence is strongly seen in A. Pettenkofen, a very successful follower of Meissonnier, and in Otto von Thoren the animal-painter. We might name a long list of the artists who are German in every thing but their nativity: Heinrich Angeli the leading portrait-painter, Leopold Muller the *genre* painter, and l'Allemand the battle-painter, are the most prominent among them. Carl and Eugen Blaas and Hans Makart turn to Italy for their encouragement; the latter to study the Venetian masters, from whom he draws most of his courage in color and his schemes of composition.

The Austrian exhibit is on the whole much more creditable than the German, and should have changed places with it, that Makart's great painting of Venice doing homage to Catherine Cornaro might have had a position at the end of a hall. This picture is the one modern work that easily leads the list of the combined contributions of civilized nations. It is a purely decorative picture, and makes no different claim to consideration. Briefly described, it is an assemblage of Venetians in gorgeous costume, offering flowers and gifts to the queen, who sits in state, surrounded by noble personages. In composition it resembles one of Paul Veronese's large canvases; and in color it is more in the vein of Titian and his followers, being rich and deep, with a predominance of reds of wonderful strength and splendor. It may be criticised as too much reasoned in its arrangement; for the oppositions of detail in light and shade are brought out often at the expense of truth; and, beside, there are many points of careless drawing. But it is well to remember that every thing is subordinated to the decorative effect, and that pre-occupation with the color may account for, while it does not perhaps excuse, the weak drawing in parts. In its present position, without a frame and on the side of a narrow room, the picture cannot be inspected with comfort, or judged with fairness. Makart's two smaller pictures, the Abundantia, were lately shown in New York, and are hung here in the collection of a picture-dealer. The subjects, the Abundance of the Earth, and the Abundance of the Sea, were chosen for the resources they gave for the introduction of rich draperies, figures, and all the products of the earth and sea. The pictures, which were evidently painted as panels for an interior, are bouquets of skilfully combined and contrasted colors, and beautiful forms. There is of course little expression in them. The search for this element is much better repaid in the Catherine Cornaro. They fill the eye with their delightful richness of color, they satisfy with their luxuriousness and *abandon*, and gratify a taste which may not be the highest of our nature, but which is well worth cultivating for its capacity of adding to human enjoyment. After Makart's masterpieces there are but few prominent pictures in the Austrian section, although, as has been said, the general character of the works is much higher than the German. Eugen Felix's "Bacchantes" is a painting of the classical order, as the title suggests. It has two rather smoothly painted nude figures that incline to the classical while they have quite an element of realism. Perhaps this is the reason why the picture is comparatively uninteresting, notwithstanding its seriousness. A rough, dark-skinned hurdy-gurdy man with a monkey so attracted Josef Fux that he has given his study of the figure a generous canvas, and has painted it life sized, when it is scarcely worth the small academic dimensions. Fux's pictures are not noted for the significance of their motives; and this one has no deeper charms than a firm masculine handling, and a scale of solid, fresh color. The best piece of execution is Carl Probst's portrait of a lady in green satin. The sallow face and hands are exquisite in modelling, and the drapery recalls our own Copley in its perfect texture. What has been said of the German *genre* pictures applies equally to the Austrian, so far as they are seen here. Carl Riedel's "A Nap at Table," an old gentleman asleep after his lunch in the arbor, is an excellent piece of work; and Schaus's "Newly Elected Mayor" is a fair example of the humorous *genre*. Two sisters, Maria and Louisa Von Parmentier, contribute the most interesting and meritorious landscapes, all of them quiet and gray and full of genuine feeling. The Austrian landscapists are not numerous at the best, and are but feebly represented.

The Scandinavian pictures are national to a refreshing degree, both the figures and the landscapes. In the Swedish collection, Count G. von Rosen's portrait of E. von Rosen, the founder of Swedish railroads, is not only the best portrait in this section, but for earnestness and strong character has no superior in the exhibition. It is very quiet, intensely lifelike, decidedly artistic. One makes its acquaintance as he would meet the sitter, which is the best praise that can be given a portrait. In the historical and *genre* pictures the Swedes follow closely the German methods; which is natural enough, since the most of them are educated in the schools of Germany. F. Hakert's "Burning of the Palace at Stockholm, in the Youth of Charles XII.," is the best academic work, but will only attract from the vigor of its dramatic effect. Much of the best *genre* work is by women. Mrs. M. Zetterström's "What does She Think of?" is a badly drawn, brutally painted little study of a sailor and his sweetheart, but so full of national character that one must be interested in it. Judging from Miss Anna Nordgren's study of an Italian girl, which looks more like the daughter of a Viking than a child of sunny Italy, it would seem to matter very little where the pictures are produced: they are always, first and last, Swedish. Auguste Jernberg's works show more of the direct German influence; notably his "Market-Day in Dusseldorf," the most important *genre* in the list. Among the landscapists Wahlberg is the best known in this country; and he is represented by a moonlight on a river with boats and nets, not one of his best pictures. The Swedish landscapes are in general solid, almost brutal in treatment. Andreas Kallenberg contributes three studies all strongly characterized by these qualities. A beech-forest with sunlight playing through the trees is the most agreeable, possibly because he has left out the ugly cattle that disfigure the others. Baron Hermelin sends a full dozen, none remarkable enough to merit detailed description, but all of them good.

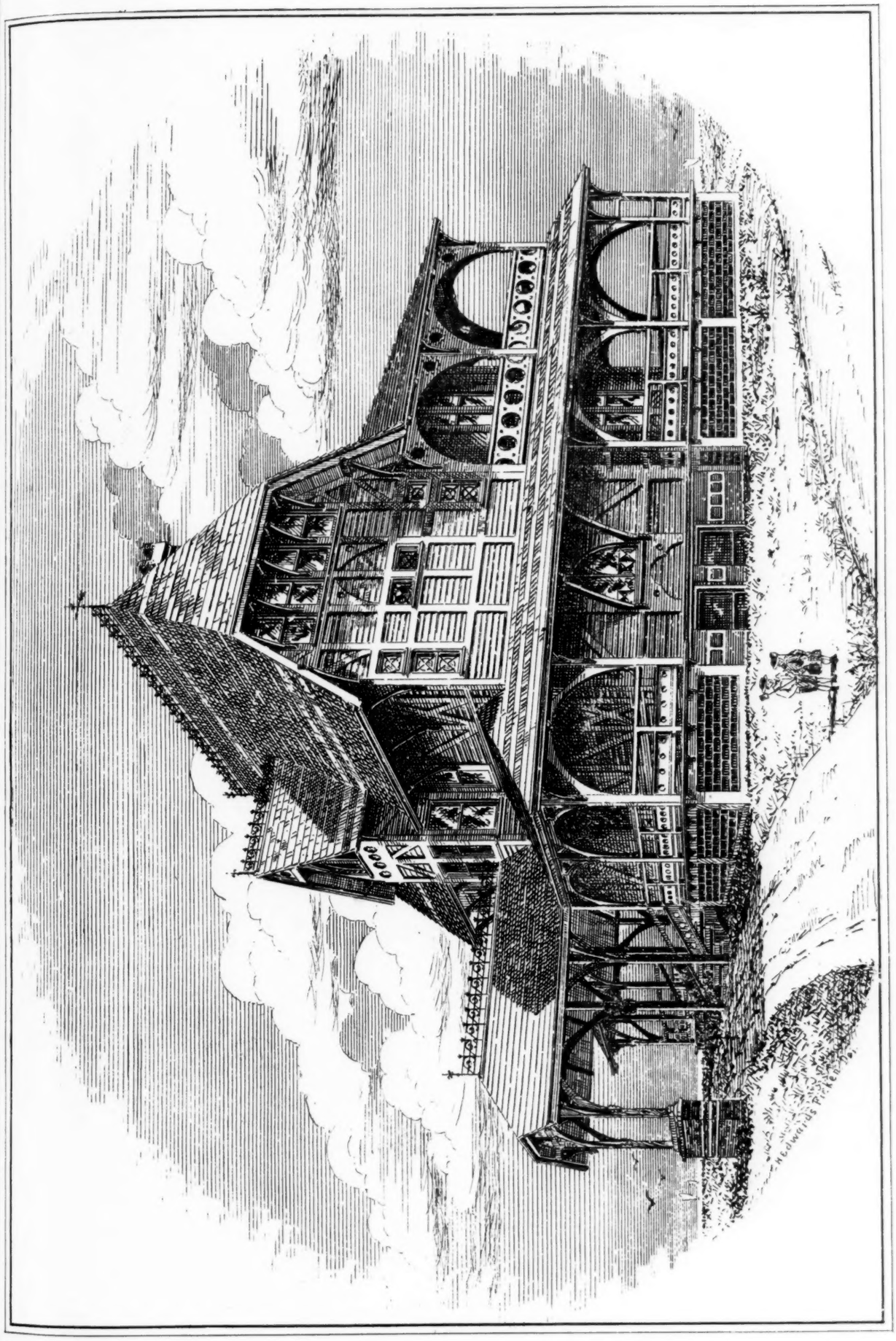
The best landscape-room in the exhibition is the Norwegian. There are a half-dozen painters represented, who work as earnestly and enthusiastically as any men who can be named. The results are masculine, frank studies of Norwegian scenery, that are full of nature, not lacking in sentiment, and painted in an agreeable scale of color as well. A. Normann's three paintings of fjords give most impressions of the rugged landscape. The atmospheric effect, the decisive oppositions, and a really muscular manner of treatment, are supplemented by a remarkable finesse of color and strength of tone. Much in the style of Munthe is Jacob Schive's winter landscape with pale afterglow shimmering on the ice and snow of an inlet. Still another one who paints in the new Dusseldorf school is Niels B. Moller, who sends four realistic studies, one of which, a view of rough coast scenery, with an approaching storm, is truthfulness itself. Before the series of strong landscapes, but meagrely noticed here, one almost forgets to look at a really fine figure picture, Ruth and Boaz in the wheat field. It is the work of Otto Sinding, who paints at Munich. The limits of a single article scarcely afford space to recognize in a proper manner the most excellent qualities of the Norwegian landscapes: it must suffice to say simply that they have no parallels and few equals in the exhibition.

The Danish contribution is very small. Prof. Carl Block, who secured his reputation as the first academical painter of the country by his famous Prometheus, and has since added to his fame by some of the strongest small *genre* pictures of the epoch, is the prominent figure among Danish painters; and we should have formed a better idea of the art of that nation if he had been represented. William Hammer, known in this country from his large flower-paintings, sends two fruit-pieces; and these with a picture of a midsummer night on the coast of Iceland in rough weather, by the late William Melby, are the most noticeable of the Danish works.

THE ILLUSTRATIONS.

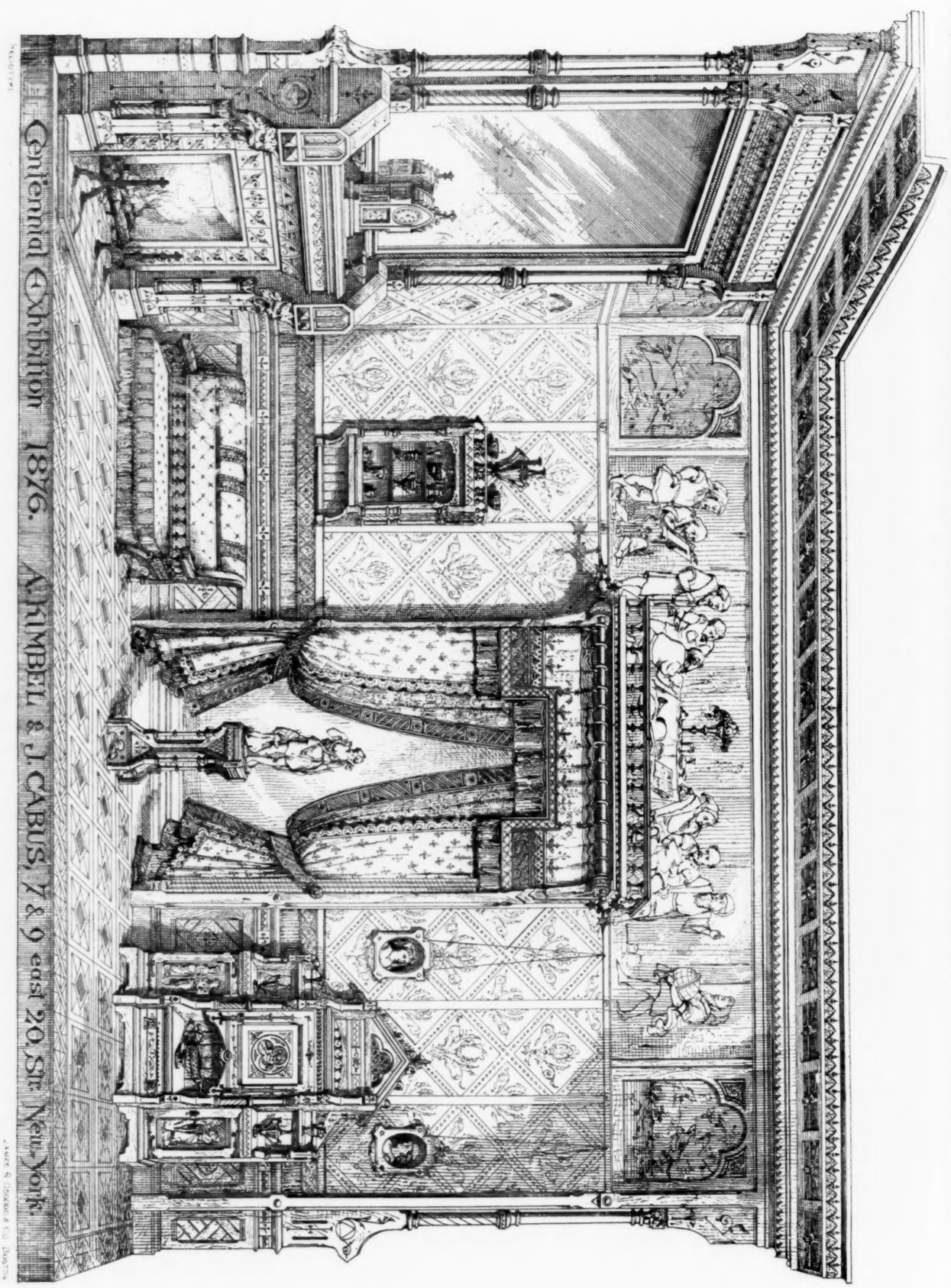
COTTAGE AT SEABRIGHT, N.J. MR. R. H. ROBERTSON, ARCHITECT.

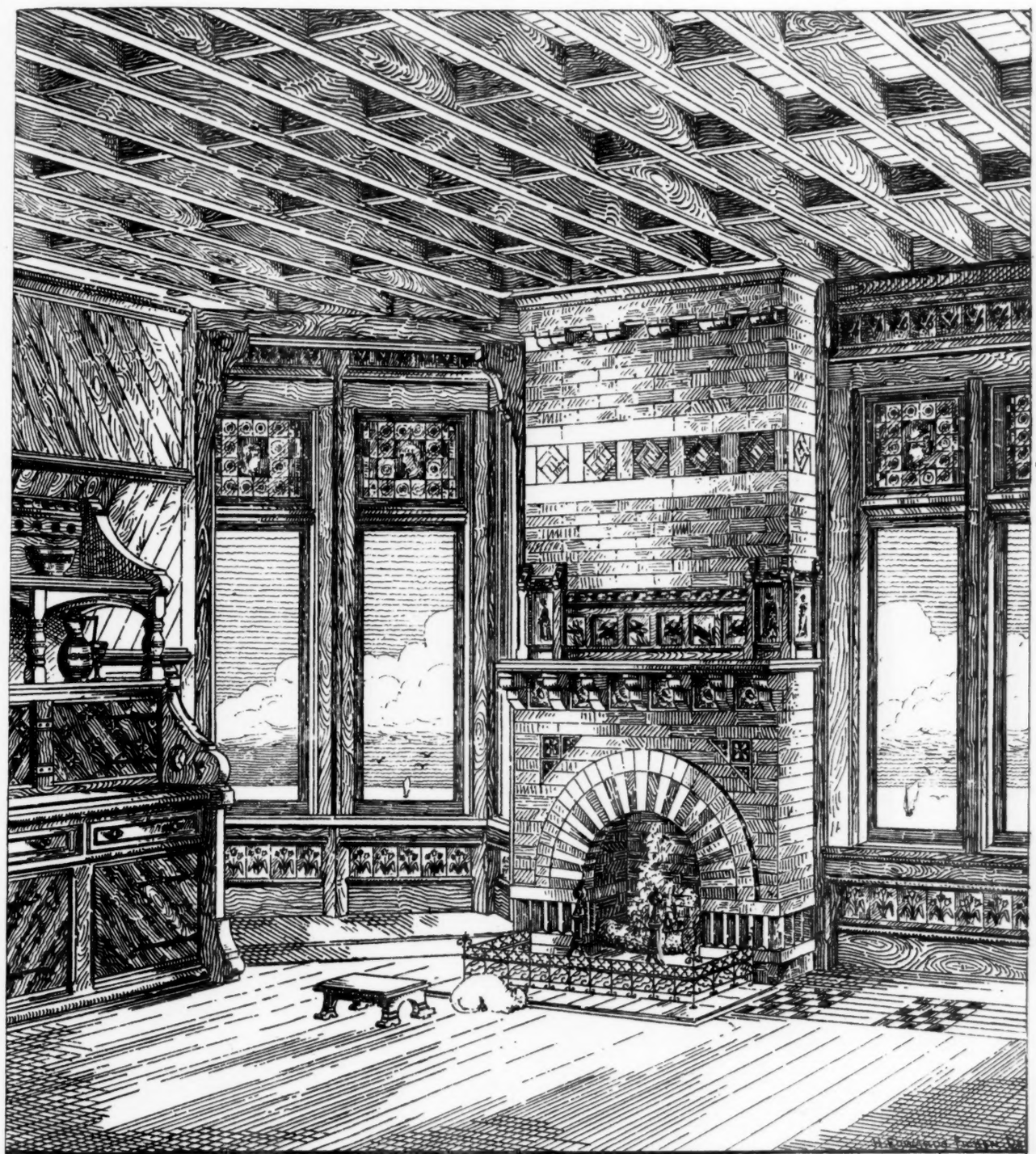
THIS seaside cottage was built last year at Seabright, N.J., near Long Branch, for Theo. Timpson, Esq., of New York. It is of wood construction throughout, the inside framing being left exposed, and



Cottage at Seabright, New Jersey.

R. H. ROBERTSON, ARCHITECT


Centennial Exhibition 1876.
A. KIMBEL & J. CABUS, 7 & 9 east 20 St. New York.



Interior of Dining Room: Seaside Cottage: Seabright N.J

R. H. ROBERTSON: ARCHITECT: N.Y.

HELIOTYPE. JAMES R. OSGOOD & CO. BOSTON

American Architect and Building News, July 22, 1876.

HELIOTYPE.

U. S. Court House, and Post Office, Grand Rapids, Mich.

WM. A. POTTER, SUPERVISING ARCHITECT, TREASURY DEPARTMENT.

JAMES R. OSGOOD & CO. BOSTON.

finished in oil and shellac, with the chamfers picked out in color. The chimney-breasts are carried up of pressed and white brick, with bands of colored tile. The view of the cottage as here shown is taken from the road in the rear, the sea being within a hundred yards of the piazza in front.

INTERIOR PERSPECTIVE OF A COTTAGE AT SEABRIGHT, N.J. MR. R. H. ROBERTSON, ARCHITECT.

This is the interior of another cottage at Seabright.

INTERIOR PERSPECTIVE OF A ROOM. MESSRS. KIMBEL AND CABUS, DECORATORS.

This room and furniture, to be seen at the Centennial Exhibition, is finished in ebonized wood, dull finish, with parquetry flooring of maple and rosewood. The upholstering is of maroon satin with plush trimmings.

COURT-HOUSE AND POST-OFFICE AT GRAND RAPIDS, MICH. MR. WILLIAM A. POTTER, SUPERVISING ARCHITECT.

The first floor is to be occupied by the post-office, the second is assigned to offices for the various government officers, and the third floor is to be occupied by the United States courts, and officers of the judiciary. Exterior walls faced with pressed brick with stone belts, cornices, etc. Estimated cost, $129,000.

THE intense heat of the past week has made our workrooms so hot, that, in spite of every care, proper transfers could not always be made; so that the perspective views of the Old South Church, and of the Chicago Court-House, as designed by Mr. Mullett, did not come out as well as the excellence of the drawings led us to hope. For the inequalities of the prints, we offer our apologies.

CORRESPONDENCE.

CHICAGO.

THE city of Chicago is full of illustrations of the use and abuse of concrete stone for building-purposes. The principal material here used is the English Portland cement; and it is a regular article of commerce. It is principally used now in laying sidewalks; but four years ago it entered largely into the manufacture of artificial stone.

Before the great fire, the extensively advertised Frear stone had been manufactured for some years, and a Portland cement stone factory had just been started. The company making the former article evidently had great confidence in its virtues; for it set up carriage-steps in numerous places, with advertisements of the company stamped on them. But they defied the elements without avail, and in a few years became only rounded masses without definite shape. The period of the great rebuilding opened a wide field for both companies; and they were soon competing with the stone-cutters. The public had little faith in the Frear stone, and, on account of the extensive advertisement of it, confounded all other artificial stones with it: consequently it was up-hill work with the Portland cement men, whose work had really stood very well, and had resisted fire in a manner to astonish every one. The Frear stone people soon changed the composition, and introduced Portland cement into it. (What it originally consisted of, I have never been able to ascertain definitely; but it strongly resembled the crust of rye-bread.) The Portland cement gave the true stone color, and with this the Frear company erected several large buildings; most notably the "Hale Building," erected by the enterprising inventor of water balance elevators, a structure on the corner of Washington and State Streets about one hundred feet square and five stories high. This front has looked quite well since the time it was built; but for some reason it has recently been entirely painted over. The Portland cement company, under the absurd title of the "Composition Granite Works," obtained by far the largest number of building-contracts. Whenever they came in competition with sandstone-cutters, they bid about one-third under them; and to those who had faith there was a certain economy in using the concrete stone. Other companies soon came into existence; and before long there were several factories for making artificial stone. I cannot speak with exactness, but should say that there are fully one hundred fronts of buildings of artificial stone in this city, while lintels and other trimmings may have entered into the construction of a thousand more. These were all built between 1871 and 1874.

It can be fairly said that concrete of Portland cement used in the form of artificial stone has been well tested here. In the majority of cases, it is as good to all appearances as when first put up. Where it has been used to carry heavy weights, there are no instances of its failure, that I am aware of. There are instances of its failure from the disintegration of surfaces; and these are mainly due to hurried manufacture, careless handling, and bad setting. It has been noticed, that where the surface has become honeycombed and spiderwebbed with small cracks, it has occurred in fronts hurriedly made (perhaps without correct proportions of water, sand, and cement), and set too soon after making. It has stood the best where it has remained perfectly quiet for two or three months after being taken from the moulds, and been periodically wetted. These fronts have thrown out less of the salts of cement than the others. The disposition to throw out salts at changes of temperature is a decided objection to the material. Still in the best work the salts seem to wash off easily, and will not appear for a year at a time.

There are two large buildings, one the Burdick House at the corner of Wabash Avenue and Adams Street, and the other a double store a short distance south of it, both of which are excellent specimens of artificial stone work. They both have a very uniform, dark-gray color, and both were carefully manufactured. Some blocks on the Burdick House, forming the long attached columns, must weigh at least a ton. Both these buildings have finely-moulded cornices and water-tables between the several stories, and these are all perfect. Many of the concrete fronts throughout the city have been painted, some because of their having become very irregular in color, and others because of the appearance of surface disintegration; but these form the minority. There are many sandstone fronts in this city also painted, principally because of iron-stains. This has been especially the case with the Kankakee stone, which has now gone out of use altogether.

Concrete has not been used for doorsteps or staircases, our limestone being so much superior and cheaper in forms that can be worked by machinery. The only use that has been made of concrete made in the wall is in Farwell's store, to which I alluded in my last. As a durable constructive material, in this case it was a success; for exterior appearance it was a failure. In cost it was extravagant as compared with brick. The brick walls faced with concrete stone were much cheaper than any other materials during the period to which I am referring.

There are examples of the Ransome artificial stone in Chicago. In 1872 a gentleman came from San Francisco, where he had been making artificial stone under Ransome's patents. Having, as he thought, mastered all the practical difficulties in the manufacture of it, he thought to form a company here. To his surprise he found that a company had been formed many years before, and was in possession of the patents, but had never done any thing. The simple reason was, that it did not know how to make the stone. It was but a short matter to buy up the stock; and one gentleman was so delighted with the prospect of being able to manufacture it, that he invested sixty thousand dollars in setting up works for the purpose. Notwithstanding the beautiful samples produced, the first building erected was a failure. It soon began to decay, and now is in a very dilapidated condition. Another small store-front was more successful, and still looks remarkably well. But the company found it necessary to incorporate Portland cement in the material, and was about to produce a new stone combining, as was thought, the advantages of Portland cement with the chemical process of Ransome. What would have been the result cannot be told; for the demand for buildings fell off, and the price of stone-cutting declined so that natural stone could be procured for a much cheaper price than that for which any artificial material could be produced. The Ransome company also manufactured floor-tiles; but these also were a failure, and where they were employed have since been replaced by others. The evident defect in all the Ransome stone was its porosity; and the disintegration was due mainly to the action of frost. The tiles, though hard, did not seem to have wearing properties. Probably for want of a close texture, individual grains of sand were gradually displaced until the surfaces were deeply indented.

The manufacture of artificial stones has now almost entirely ceased. The main reason is, that natural stones are cheaper. Notwithstanding all the claims set forth of the superiority of the fictile material, people will have natural stone if they can get it for their money. The fact that there is a [minimum?] limit to the cost of all artificial materials of this kind, while very low rates of labor will cause greater fluctuations in the price of the natural article, will always make the manufacture of stone a hazardous undertaking. Thus far, notwithstanding the success structurally of the Portland cement stone, there is no prospect that it will

become a regular article of trade. Still there are so many uses for the cement in legitimate construction, that the demand for it will doubtless increase. It makes the best sidewalk that we can get for the money, and for this purpose is now extensively employed, as well as for flooring manufacturing buildings, basements, and cellars. There are several competing firms here in this business.

An illustration of the great strength of hammer-beam roof-trusses was recently given. During a severe tornado, the spire of Grace Church, the timbers of which were affected by dry-rot, was blown down, and fell directly upon the roof of the church. It has a span of about seventy feet; and is a genuine hammer-beam roof, without the ingenious and hardly perceptible tie-rods which have recently been employed by some New York architects in similar roofs. The walls were well buttressed; and heavy stone corbels were built in to receive the foot-braces. The construction is very similar to that of the celebrated roof of Westminster Hall, having arched ribs intercepting the hammer-beams and all the braces from the corbels to the tops, while there is less intermediate work. The whole effect of this roof from the interior is light and graceful. The spire in falling struck about one-third of the distance from one of the bearing walls, and its full weight came upon four trusses. All the rafters and purlins of three bays were entirely demolished, and the *débris* of the spire broke through the floor of the church, and landed in the basement; but the roof-timbers were entirely unharmed, and required no repairs. Had one of them given way, the whole roof would undoubtedly have been demolished.

NEW YORK.

THE First Presbyterian Church at Bridgeport, Conn., has just been completed by Mr. J. Cleaveland Cady, architect. It is unique in design and finish, and is a step of some moment to those who look upon the ordinary cathedral plan of ecclesiastical structure as unfitted for the uses, and unable to fulfil the demands, of modern Protestant worship; and who are not willing to accept the Methodist meeting-house, with its shelf-like gallery, pipe-stem columns below, and flat ceiling, which remains a mere square box, with its useless corners and inherent barn-like ugliness, despite the wealth of mural ornament which may be placed upon it. The object of this arrangement, to have a more social aspect than is presented by the nave and aisle arrangement, was hardly accomplished. The polygonal plan was the next step; and, from the first, attempts were made to bring about that concentration, economy, and sociability, to be found in a church of one large room without any obstructing columns, and in which each worshipper has equal privileges of seeing and hearing. The advocates of the use of corrugated iron, finding that the circular form incloses the greatest amount of space with the least outlay in walling, were able to make tempting offers to impecunious or ignorant church committees, to put up a great shell for little money; and the "Church of the Holy Pepperbox" stands to-day in New York a failure, and a disgrace to everybody connected with it. The idea of a closer communion between pastor and people was popular with each; and, while the plan was acceptable, the working-up of the design produced a structure without any religious expression, and in name only a church.

It was with the problem of how to retain the congregational ground-plan, and rear upon it a superstructure which should not violate every fundamental canon of purpose and the expression of it, that Mr. Cady grappled. He has disguised nothing, nor has he allowed secular features to become prominent. The auditorium proper is in shape an octagon, with two long sides. Each of these sides is pierced with a great open archway 45 feet high, and 22 feet broad. From arch to arch the distance is 60 feet; and at right angles to this the chapel measures about 90 feet. In one of these large openings the organ is placed; the other opens to the front of the church, by a recess forming a lobby to the main hall. The large windows of the front gable in this way open directly into the audience-room. At either corner, flanking this lobby, are the entrances, over one of which the tower rises to a height of 150 feet. The pulpit platform is placed directly before the organ-body, while the manuals are carried still farther out into the hall, bringing the organist into a central position, and making congregational singing more possible. The roof, however, is Mr. Cady's objective point; and upon the treatment of the ceiling the chief study has been expended. A clerestory is gained with a fine row of windows, carried on a series of hammer-beams springing from the walls of the chapel; and all the effect of an open-timber roof is preserved with care. The details are all in keeping. Above the wainscoting a dark tint is given the walls, above a lighter shade, while the ceiling is most delicately finished. This adds much to the apparent height of the interior. The finish within is in ash, most excellently carved, especially on the organ front and about the low pulpit, or reading-stand, front. At either flank of the octagon, the walls are pierced either for doors or windows, all the windows being filled in with stained glass. The two doors on either side of the pulpit lead to the Sunday-school rooms, study-rooms, etc., farther back. The whole design is most compact. Not one of the 900 or more persons of the audience will sit more than 57 feet from the pulpit: each and every one has equal views, and opportunities of hearing. The aisles radiate from the pulpit. The church body is of the dark Eastport granite, while the belts, etc., are of the lighter-tinted Westerly granite. The plat covered was 130 by 95 feet, with the Sunday-school extensions and all. Outside, the interior features are frankly expressed. The high gable over the lobby and organ space breaks up the otherwise too symmetrical roof. For city churches where space is valuable, and side light not readily obtainable without much inconvenience, the octagonal plan must become extremely common and popular; and, if treated by skilful hands, can be made to satisfy all the laws of good taste, and make those feel who worship there, that they are really in a church. The cost of the Bridgeport structure, exclusive of ground and organ, was $60,000; and it is considered a cheap building.

The quarterly report of the superintendent of buildings, for the three months ending June 30, makes a very satisfactory showing in figures at least, and must surprise those who insist that we are going from bad to worse in building-matters. Compared with the corresponding months of previous years, the second quarter of 1876 is fully up to the average. The number of petty alterations so common in 1874, immediately after the panic, has diminished; more new buildings are being erected; and, where it is determined to improve property already built upon, it is by the erection of entirely new edifices. The following table will show the comparative standing for the second quarter of 1874, 1875, 1876: —

	1874.	1875.	1876.
Plans submitted for new buildings	284	296	267
Number of buildings embraced therein	447	476	509
Estimated cost of same	$6,003,037	$7,228,200	$7,544,585
New buildings commenced	435	428	482
" " completed	384	305	321
" " in progress	....	829	707
Plans submitted for alterations	475	473	381
Number of buildings embraced therein	506	490	406
Estimated cost of same	$1,379,848	$1,188,966	$2,136,538
Alterations commenced	517	421	394
" completed	476	431	422
" in progress	....	284	191

Of the 267 new plans sent in, 206 were approved, 54 sent back for correction and subsequently approved, and 7 wholly rejected; of the 381 alteration plans, 309 were approved, 58 corrected and approved, and 14 wholly rejected. The figures indicate that larger jobs are being taken in hand. The increase of nearly a million dollars in alterations is principally due to many extensive additions to business houses in anticipation of a return of business prosperity, and an anxiety to take advantage of the present low rates fixed by contractors. There is really not much speculative building on fancy property in the upper part of the city, so that the majority of the figures given are for working property, to be turned to use at once. A glance at the figures for the first *six* months of the year tells a rather different story, and shows that the present activity has sprung up suddenly, and was not foreshadowed in the entries in the early part of the year. The estimated cost for the months January to June inclusive, of new and old work, stand as follows: —

	New.	Alterations.
1874	$9,824,957	$2,229,512
1875	12,014,300	2,152,763
1876	10,276,332	2,849,727

Since Jan. 1, 53 unsafe buildings have been condemned and taken down, and 1030 buildings made safe. The Bureau of Iron-work for the same period report the testing of 161 arch-girders, 270 iron beams, and 64 iron lintels: all but one lintel were found up to the standard.

AN ARGUMENT FOR SHEET-METAL IN ARCHITECTURE.

PHILADELPHIA.

EDITORS OF THE AMERICAN ARCHITECT AND BUILDING NEWS.

YOUR journal of 3d and 10th ult., under head of "Centennial Architecture," applies the following terms to the use of sheet-metals in architecture: "most offensive," "pretentious," "coarse ornament," etc.

"Pericles persuaded his countrymen to expend on the decorations of Athens a sum equal to four million pounds sterling. In forming the plan of the magnificent edifices which he was thus able to construct, Pericles was directed by the celebrated Phidias, the greatest genius in the arts to whom any country has given birth. During fifteen years, this wonderful man acted as superintendent of the public works at Athens; and in that time built, of the *finest Pentelican marbles*,[1] the Parthenon, the Propylia, an entrance to the Citadel, the Odæum, and many *splendid porticos* in different parts of the city."[2] "These porticos, to render their appearance more grand and attractive, had their walls coated with *stucco*."[3]

"Notably is it the case, that in Paris, Berlin, and Vienna, the exterior, and in many instances the interior architectural ornamentation, is either of zinc or stucco."

"Architecture burst forth with a splendor unequalled in this country (England), both in our public and private buildings. The Regent's and St. James's Parks were laid out; and splendid buildings began to be erected around them. The Grecian architecture, now combined with the Roman, became generally adopted. This style is too well known to need description to those who have seen these noble and majestic columnar piles." "*But this progress in Grecian architecture has been entirely owing to the discovery of the* CALCAREOUS CEMENT," "*from which all the ornamentation was derived*, without which the expense of erecting these designs would have been too great."[4]

And, we may add, London would have been deprived of a page of the best architectural tuition extant. (This ornamentation would no doubt have been of sheet metals, had the architects been possessed of the knowledge to construct the embellishments of such materials.) Much viler in its nature was the *cement* art than if it had been produced in so noble a material as iron, the art-material of the future, susceptible as it is of the most intricate not to say exquisite rendering of artistic forms, besides being in durability quite the peer of the majority of stone used for decorative purposes.

We are led to these quotations and remarks by the wholesale and uncalled-for denunciations of art-work in iron and zinc, appearing in your journal from time to time; and, in reply to the writer of "Centennial Architecture," beg leave to ask a few simple questions, believing, as I trust he will when he becomes more honest and less biased, not that two wrongs make a right, but that any thing of merit that will lead us to elevate the masses in the arts should be fostered, *not* condemned. We cannot all expect to possess an original Angelo, Raphael, or Rubens, but we may enjoy a good *copy* of either or all of them; and shall we be so bigoted as to discard the art teachings of such masters, forsooth, because we are not able to possess the *originals?* Out upon such pernicious doctrine! It may do for a Ruskin, who would roll the world back a century, but not for this enlightened and progressive age.

I quote: "The dome and the attic which support it are of sheet-metal, probably of galvanized iron, and look mean accordingly." Which, in truth, were the meaner of the two, the *unpretentious, honest* use of architectural sheet-metal work in positions *requiring lightness coupled with strength and durability*, as for instance the dome of Memorial Hall, or the use of *stone ashlar* for wall-facings (as it is used throughout the world in the best structures) to cheat the masses into the belief that the walls are *solid of such materials?* the former making no "pretension" to being other than it is, while the latter is a "trick and a sham" of the worst kind.

It must be apparent to any thinker, that lines of beauty, *per se*, do not nor can they belong to any *one* material. It is equally true, that some forms (a composition of lines) are more characteristic of the nature of some particular substances than of others; and upon this theory it is equally evident that, the more intricate the *form*, the more in harmony it becomes with a ductile substance, rather than with one of a cleaving or brittle nature: hence the honest use of metals for decorative purposes (either mouldings or carvings, so called) is in keeping not only with good judgment and common-sense, but may be and is in every way artistic. It were much better that we reproduce the art-treasures of the old masters even in so derided a substance as iron, than for our people to go untaught in such matters; and, if of no other value whatever, forms of beauty in sheet-iron, as indeed in *any material*, are to be encouraged as a medium of art education.

Let us ask the "icy critic" of art, who hurls his epithets so freely against iron, to what DEPTH art extends? Is it not a trite saying, and here an argument in favor of sheet-metal ornaments, that "beauty" (and, we may add, art) "is but skin deep"? Does he not well know that a blow causing abrasion of surface is destructive to the *thin* beauty of the form wrought in stone, oftentimes rendering it but a waste block? and can more happen to "thin iron"?

Let us ask again, is there any difference, from an artistic standpoint, between two Grecian Corinthian capitals, one wrought in stone, and the other, its exact counterpart, wrought in metal? and, if there is, may not, and in fact does not, such difference show the superiority of the metals as being lighter, more delicate, and hence nearer allied to the natural forms from whence was derived the design?

The use of burl veneers, wall-paper, imitation fresco, graining, tiling, stucco, etc., which all architects use in their practice, and recommend without compunction, is a much greater trick and sham than the use of sheet or cast metals. Art, "servile imitation," consists as much in the producing of leaves, eggs, darts, volutes, etc., in stone and stucco, not to say colors, as if the same was produced in iron or zinc; and, if we copy nature's forms in the metals, we do not of necessity enter into a "servile imitation" of stone or wood, any more than two *copies* of Angelo's "Moses" (one stone, the other metal) would be copies of each other. We get our ideas of solidity, as well as our art lines, from ancient Egypt, Greece, and Rome; and it is but fair to allow us to assume, that, had those people been possessed of the knowledge in the iron-arts as now practised, they would have used the metals, notwithstanding labor cost but little, and money-tax was levied without a thought of the people.

And now let us ask what constitutes *intrinsic* value and merit in art subjects. According to a very learned and at times quite unreasonable authority (Ruskin), the *amount* of mental and physical labor entering into a piece of work *must* constitute the former, and the *honesty* with which the work is executed, the latter; and, arguing from such basis, a cubic foot of refined iron will rank much above the same bulk of building-stone, or, for that matter, statuary marble, in the scale of value. Nature made both but the iron has a value, *par excellence*, wrought by nature's noblest production, *man*, and must have an intrinsic value to start with, not possessed by the stone. But, for the present, admit that both are of equal value, and are placed in the hands of artisans to work into given forms, one solid, the other sheet thickness: we ask in candor, will not the iron block, going through the many processes necessary to render a sheet of it, and through the hands of skilled labor and costly machinery, to give it the required mould or form, be as artistic in its general features, and of greater intrinsic value, than the cube of stone that has the same form wrought upon its face? We are of the opinion that honest criticism, free from wilful bias, must admit that the iron will be the best of the two. Far be it from our mind to in any form condemn stone; and we would not have entered upon this controversy, had the supposed interested promoters of stone-quarries allowed simple justice to the great metal interests represented at our centennial, and been willing to admit that the world progresses.

There is a maxim, "The greater the deception, the more perfect the art," which iron, though not depending upon any deception for its advancement, has as much a right to as either stucco, wood, or stone; and if, in this age of scarcity of timber and great cost of stone-work, iron has become a necessity (and such is undoubtedly the fact), it will be more honorable and becoming in our architects and *art critics* to lead and elevate the tone of iron and other metal productions, rather than, Quixote-like, be continually hurling their boomerang shafts (for their dishonest condemnation of the metals in architecture will certainly recoil to their disadvantage) at a material that must come into general use through the positive needs of the case. And it is as manifestly unjust and narrow to charge the use of architectural sheet metals with such ribald insults as "most offensive," "pretentious," etc., as it would be to charge the same to *any surface decoration*.

In conclusion, allow me to assert that the glories in art of ancient Rome and Greece do not belong to any particular modern time or people, but, on the contrary, to all the coming generations; and, when any critic dares tell a people in what *particular substance*

[1] Italics are ours.
[2] Plutarch's Life of Pericles.
[3] Brown's Architect, p. 52.
[4] Brown's Architect.

they *must* reproduce such art, he dares do that which an art-craving and withal progressive people, especially at this time, will not tolerate. "QUAKER."

[WE print the above communication in full, in order to give the writer as fair a showing as possible, though we must protest against being expected to give so much space to such contributions. He does not leave us room to analyze in detail his arguments, in which, however, the fallacies are pretty obvious. We have somewhat discussed the question of metal work elsewhere: here we need only say that "Quaker's" letter is altogether beside the mark. The strictures of which he complains (see *American Architect* No. 24, June 10) were directed simply at the design of certain particular buildings and the way in which sheet metal was used in them, especially the so-called Sheet-Metal Pavilion at the Centennial, of which we do not think it too much to say that the ornament is coarse, and so overloaded and pretentious as to be most offensive. As for the dome on the Art Building, and its attic, we can only say that sheet-iron parodies of stone-work are really to our eyes mean looking — most of all, naturally, when contrasted with actual stone-work; and that it was solely by its mean look that we detected the use of iron in this place. We are as far as possible from asserting that there was any need, in using metal, to have made these buildings pretentious or mean looking. The truth is, we fear, that sheet-metal workers have not so abiding a faith in the nobleness of their material as they would persuade themselves, or as we could wish them. Nobody tries to make jewels look like pebbles, or silver like pewter. — ED. AM. ARCHITECT.]

NOTES AND CLIPPINGS.

CASTLE GARDEN. — Castle Garden was originally built in conjunction with a battery, by the Dutch, as a defence against the British and other foes. It was captured by the British, and named Fort James. The Dutch regained possession of it, and renamed it Fort William Hendrick. Upon the fall of the Stuarts, the residents of the embryo metropolis seized the fort; and for two years it was here and abroad an object of interest in the war. It became the headquarters of the desperate men who preyed on the commerce of the New World. When John Montgomery became governor, the fort took the name of Fort Clinton. Governors and officials occupied it; and during the Revolution it was used by Lord Howe, the commander of the British forces. After the Revolution it was hoped that New York would be the seat of the Presidential mansion; and, with the purpose of erecting a structure worthy of the new nation, the old governor's mansion at the fort was destroyed; and the stockades, outer defences, etc., were levelled, so that the castle became a fortification merely in name.

After the war of 1812, all pretence of fortification being abandoned, the battery was converted into a pleasure-resort, and Castle Garden became the place of assembly on Manhattan Island. With the march of improvement, the battery fell into disfavor, and in 1855 the Castle Garden was opened as an emigrant depot.

BROOKLYN'S CITY BUILDING. — The plans and specifications for the new municipal buildings in Brooklyn are placed for public inspection in the Common Council Chamber of the city.

HUGUENOT CHURCH. — The Huguenot Memorial Forest Church, the only Huguenot memorial church in America, was lately dedicated at Pelham Manor, Westchester County, New York. The Huguenots of Westchester County settled there between the years 1686, 1689.

PATENT SUSTAINED. — By a recent decision of the United States Court at Boston, the Montgomery Patent, owned by Messrs. George Dwight, Jun., and Co., of Springfield, Mass., covering fire-proof floors of corrugated metal arches, is fully sustained. This is the original patent for such construction, and controls the use of corrugated metal arches for floors and ceilings in every method.

GRAIN-ELEVATOR. — A new grain-elevator is being erected in Jersey City by the Erie Railway, in opposition to the one lately described by our New York correspondent.

CONDEMNED AS UNSAFE. — The Exposition Hall at Cincinnati, built in 1869 for the Sangerfest of that year, and since used for numerous exhibitions and political conventions, has been condemned as unsafe, and is to be at once taken down.

AMERICAN INSTITUTE EXHIBITION. — The American Institute of the City of New York will hold its forty-fifth exhibition this fall, opening on the sixth day of September next, and continuing until late in November. A special award of a gold medal is offered for this year, to be known as the "Centennial Medal."

LONDON TAVERN. — The famous London Tavern in Bishopsgate is about to be demolished.

STATUE OF LIBERTY. — It took two hundred sacks of plaster of Paris to make the mould for the wrist of M. Bartholdi's statue; the wrist when cast weighed a good deal more than a ton.

RUSKIN ON OLD BUILDINGS. — *Apropos* of the threatened destruction of the Old South, the Boston *Advertiser* prints the following quotation from Ruskin's "Seven Lamps of Architecture": —

"Of more wanton and ignorant ravage it is vain to speak; my words will not reach those who commit them: and yet, be it heard or not, I must not leave the truth unstated, that it is again no question of expediency or feeling, whether we shall preserve the buildings of past times, or not. *We have no right to touch them.* They are not ours. They belong partly to those who built them, and partly to all the generations of mankind who are to follow us. The dead have still their right in them: that which they labored for, the praise of achievement or the expression of religious feeling, or whatsoever else it might be which in those buildings they intended to be permanent, we have no right to obliterate. What we have ourselves built, we are at liberty to throw down; but what other men gave their strength and wealth and life to accomplish, their right over does not pass away with their death; still less is the right to the use of what they have left vested in us only. It belongs to all their successors. It may hereafter be a subject of sorrow, or a cause of injury to millions, that we have consulted our present convenience by casting down such buildings as we choose to dispense with."

CENTENNIAL EXHIBITION. — The Franklin Institute has opened a reception room, at the north-western end of Machinery Hall, for the use of its members, and visitors from abroad, interested in the mechanic arts. The Institute cordially invites all who desire to do so, to visit their room, in which will be found, among other objects of great historical interest, the original Franklin's Electrical Machine; Oliver Evans's Steam Locomotive Engine, built about 1804; Oliver Evans's High Pressure Steam-Engine, also built about 1804; Working Model of a Steam-Engine, built by M. W. Baldwin, and presented by him to the Institute, about 1832.

FOREIGN PERIODICALS. — The *Architect* this week contains nothing of much moment. An article on "Greek Vases;" an editorial on "Ayrtonism in America," which is a pleasant *résumé* of Mr. Potter's views of the duties of the Supervising Architect; "My Chambers, and What I did with them," which is an egotistical account of the way in which some one fitted up his chambers, and which promises to be continued; and the account of the last excursion of the Lincoln Architectural Society, — are the only articles worth mentioning. In the *Builder* will be found an article on "Healthy Habitations," which touches upon some sanitary points other than sewerage and ventilation, and will prove of interest to householders as well as architects.

ARCHITECTS' COMMISSIONS. — Sir G. G. Scott states that he has never taken a two and a half per cent commission in his life, and only once less than five per cent. He doubts whether an architect could be a member of the Royal Institute of British Architects if a less commission were taken.

TOUGHENED GLASS: HOW IT IS MADE. — This manufacture is at present being carried on on a small scale in Pennsylvania. By this process, lamps and tumblers can be toughened so as not to break. The glass, after having been run from the furnace, and moulded, instead of being put into the annealing-pots, is immersed in a hot bath consisting of linseed oil and tallow. The bath is kept up to about 300°. The ware, after dipping, is removed to a second bath with a temperature of 200°. Lastly the glass goes into a water bath. In England, a very extensive factory is now under way, where the De la Bastie process will be carried on with all its newest improvements.

TERRA-COTTA. — Terra-cotta is really a fine brick made of two kinds of fire-clay, one more intractable than the other. These are superior to common brick-clay in that they do not fuse when subjected to intense heat, and are absolutely fire-proof. Shrinkage and warping during baking are absolutely unavoidable: hence no piece should be manufactured that contains more than four hundred cubic inches. In order to provide for this shrinkage, all details and blocks are drawn to a scale of thirteen inches and a quarter to the foot. Every piece is cast with a hole in it to insure thorough and even drying: these holes are afterwards filled, when set, with concrete, or else are cramped with terra-cotta dowels. Terra-cotta is said to be of greater strength than most building-stones, it being broken only by a very heavy blow from a hammer. But little is known as to its crushing weight; thought the many lofty towers and spires that have been built of it seem to show that it can be safely used in all but very exceptional circumstances. One great objection to its use is, that its surface is so smooth that it does not afford proper hold for the mortar.

FLUSHING SEWERS. — The Hamburg sewers, which were laid in 1843, are flushed every week at low tide by turning into them the water of the Binnen Alster, the waters of which pass through them with such violence as to cleanse them so perfectly that the siphon under the river has not needed cleaning out since 1845.

PHOTOGRAPH OF THE MOON. — The Paris Observatory has received from M. Melendez, a Spanish photographer, a most remarkable photograph of the moon. Melendez invented an adjunct to his apparatus, which enabled him to obtain a wonderful picture, showing mountains and volcanoes upon the surface of the orb, and indicating forests of huge trees now petrified. The photograph in question attracts much attention, says the Paris *Journal*, which calls attention to it.